ART. XI.—*Successful Resection of both Bones of the Forearm, for Ununited Fracture of long standing.* By SAMUEL J. JONES, A. M., M. D., Surgeon U. S. Navy.

CHARLES DONALD, aged 43, mariner, constitution good, received a fracture of the radius and ulna of his left forearm, produced by the fall of a spar in New Orleans, in March, 1864. The fracture was dressed at that time, but bony union did not follow. After the accident, the mobility continued to be so great at the seat of injury—the junction of the middle and upper thirds of the forearm—that an effort to hold the forearm in a horizontal position was attended with marked inclination of the limb, below the seat of injury. Every attempt to use the limb caused it to become swollen and painful, thus preventing him from engaging in any employment.

Fifteen months after the original injury, I first saw the patient, and found the condition described, and at least one inch of shortening in the forearm. By making an H incision on the dorsal aspect of the forearm, one incision being made lengthwise over the radius, and another over the ulna, and uniting the two by a transverse one made at the points of the fracture, the parts were exposed, showing that firm ligamentous union had taken place, binding down the ends of the bones. The fragments had been prevented from uniting by the interposition of muscular fibres, around which the ligamentous bands had accommodated themselves. The fracture was an oblique one, and the lower fragments were over-riding the upper, thereby causing the shortening. The ligamentous bands were divided in the operation, and the fragments that had become rounded at the ends, were removed by means of a chain-saw, so as to bring the square surfaces in apposition, which left the arm still about one inch shorter.

The hemorrhage was very slight and the wound was closed with interrupted stitches, and an internal and an external splint applied; the latter having a rectangular opening left at the point of incision to dress the wound. Cold water-dressing was applied.

It soon became apparent that those splints did not accomplish the desired object of keeping the ends of the bones in apposition, and Passed Assistant Surgeon William C. Lyman, U. S. Navy, suggested the use of a modification of the ordinary fracture-box, in which the forearm should be supported by means of adhesive plaster secured to the outside of the box, and descending two-thirds of the distance to the bottom on the inside, and both bones kept in a vertical position, by packing each side of the forearm with charpie. This packing could readily be graduated as occasion demanded, and the adhesive-strips afforded sufficient support for whatever pressure was made, and the temperature was easily regulated by moistening the charpie with water at the temperature desired. The limb did not reach to the bottom of the box by an inch or more, and the dripping resulting from any excess of discharge or too free use of the water-dressing, was prevented from running out of the box into the patient's bed, by means of pieces of lint or other absorbing substance placed in the bottom of the box, and readily removed, whereby the dressing was rendered very clean and neat as well as very cool. Two difficulties were, however, encountered. The strip of adhesive-plaster at the point where the ends of the bones were in apposition, seemed to press too directly on them, making an acute angle in the ulna, instead of allowing it to lie horizontally. This was remedied by placing a splint on the strips, on which the forearm rested throughout its length.

The second difficulty was to give to the box sufficient motion to prevent movements of the body from displacing the fragments, if those movements were sudden, as was the case whilst the box lay on the bed by the side of the patient. This was remedied by suspending the box from a point higher than the patient, who raised or lowered the box himself at will. Thus after a few weeks he could rise from his bed and occupy a chair by his bedside, by simply shifting the suspending cord to the desired height.

The arm was kept in the box for eight weeks, and on its removal therefrom, it was found that the union was sufficiently firm to prevent dropping of the hand when the arm was held in a horizontal position as it had done before, but the union was again only ligamentous.

After allowing about a month to elapse for the patient to recover from his confinement, the original incisions were reopened, and the ligamentous bands with less than one-fourth of an inch from each fragment of the bones removed, again bringing the flat surfaces in apposition, and firmly securing them there by means of silver wire. The forearm was then again placed in the fracture-box, and treated as in the first operation. At the end of eight weeks it was removed from the box, and supported for a short time by a temporary splint, the incisions having closed except where the twisted wires were projecting.

On my detachment from duty at New Orleans, the case was left in charge of Dr. Heber Smith of that city, who subsequently removed the wires by untwisting them and forcibly drawing them out. He reports that in December, six months after the first operation, and twenty-one months after the original injury, the openings had finally closed, and osseous union had taken place in both radius and ulna, giving the man a quite useful arm, though nearly one and a half inch shorter than the other. The displacement of the fragments from the time the injury was received caused the muscles of the forearm to adapt themselves to the change, and the absorption caused thereby left the muscles in proportion to the length of the bones remaining, which proved to be an advantage.

The dressing used in this case commends itself for its cleanliness, for the ease with which it can be applied and changed, and for the convenience with which pressure can be graduated as desired. It seems applicable to all cases in which the fracture-box is ordinarily used.

During the eight weeks that the limb was each time in the box, it was only necessary to change the adhesive strips once, except the one strip at the point of the transverse incision where the discharge was greatest, all the strips adhering firmly to the wood until removed.

Art. XII.—*Efficacy of Persulphate of Iron as an Hæmostatic.* By W. A. Wetherby, M. D., of New York.

Two very marked cases of the efficacy of Monsel's salt as a styptic have recently come under my notice, one of which suggested, I believe, a new use for this article. I present the results of my observation and experience in the hope that they may prove not altogether unacceptable.

Case I. On March 3d, of the present year, Dr. S. T. E. Beck, of No. 40 Bond Street, New York, and myself were suddenly called in the case of